```
FFFFFFFFFFFFFFF    000000000    RRRRRRRRRRR    RRRRRRRRRRR    TTTTTTTTTTTTTTT  LLL
FFFFFFFFFFFFFFF    000000000    RRRRRRRRRRR    RRRRRRRRRRR    TTTTTTTTTTTTTTT  LLL
FFFFFFFFFFFFFFF    000000000    RRRRRRRRRRR    RRRRRRRRRRR    TTTTTTTTTTTTTTT  LLL
FFF             000       000   RRR       RRR  RRR       RRR        TTT        LLL
FFF             000       000   RRR       RRR  RRR       RRR        TTT        LLL
FFF             000       000   RRR       RRR  RRR       RRR        TTT        LLL
FFF             000       000   RRR       RRR  RRR       RRR        TTT        LLL
FFF             000       000   RRR       RRR  RRR       RRR        TTT        LLL
FFFFFFFFFFF     000       000   RRRRRRRRRRR    RRRRRRRRRRR         TTT        LLL
FFFFFFFFFFF     000       000   RRRRRRRRRRR    RRRRRRRRRRR         TTT        LLL
FFFFFFFFFFF     000       000   RRRRRRRRRR     RRRRRRRRRR          TTT        LLL
FFF             000       000   RRR   RRR      RRR   RRR           TTT        LLL
FFF             000       000   RRR   RRR      RRR   RRR           TTT        LLL
FFF             000       000   RRR    RRR     RRR    RRR          TTT        LLL
FFF             000       000   RRR     RRR    RRR     RRR         TTT        LLL
FFF             000       000   RRR      RRR   RRR      RRR        TTT        LLL
FFF             000       000   RRR       RRR  RRR       RRR       TTT        LLL
FFF                000000000    RRR       RRR  RRR       RRR       TTT   LLLLLLLLLLLLLLL
FFF                000000000    RRR       RRR  RRR       RRR       TTT   LLLLLLLLLLLLLLL
FFF                000000000    RRR       RRR  RRR       RRR       TTT   LLLLLLLLLLLLLLL
```

```
FFFFFFFFFF    000000   RRRRRRR    UU    UU  NN      NN  LL              000000   CCCCCCCC  KK      KK
FFFFFFFFFF    000000   RRRRRRR    UU    UU  NN      NN  LL              000000   CCCCCCCC  KK      KK
FF           00    00  RR     RR  UU    UU  NN      NN  LL           00      00  CC        KK      KK
FF           00    00  RR     RR  UU    UU  NN      NN  LL           00      00  CC        KK      KK
FF           00    00  RR     RR  UU    UU  NNNN    NN  LL           00      00  CC        KK    KK
FF           00    00  RR     RR  UU    UU  NNNN    NN  LL           00      00  CC        KK    KK
FFFFFFFF     00    00  RRRRRRR    UU    UU  NN  NN  NN  LL           00      00  CC        KKKKK
FFFFFFFF     00    00  RRRRRRR    UU    UU  NN  NN  NN  LL           00      00  CC        KKKKKK
FF           00    00  RR  RR     UU    UU  NN    NNNN  LL           00      00  CC        KK  KK
FF           00    00  RR  RR     UU    UU  NN    NNNN  LL           00      00  CC        KK  KK
FF           00    00  RR    RR   UU    UU  NN      NN  LL           00      00  CC        KK      KK
FF           00    00  RR    RR   UU    UU  NN      NN  LL           00      00  CC        KK      KK  ....
FF            000000   RR      RR UUUUUUUUU NN      NN  LLLLLLLLLL    000000   CCCCCCCC  KK      KK  ....
FF            000000   RR      RR UUUUUUUUU NN      NN  LLLLLLLLLL    000000   CCCCCCCC  KK      KK  ....

LL           IIIIII   SSSSSSSS
LL           IIIIII   SSSSSSSS
LL             II   SS
LL             II   SS
LL             II   SS
LL             II   SS
LL             II     SSSSSS
LL             II     SSSSSS
LL             II         SS
LL             II         SS
LL             II         SS
LL             II         SS
LLLLLLLLLL   IIIIII   SSSSSSSS
LLLLLLLLLL   IIIIII   SSSSSSSS
```

```
  1   0001  0  MODULE FOR$UNLOCK (                              ! Implements FORTRAN UNLOCK statement
  2   0002  0                     IDENT = '1-002'               ! File: FORUNLOCK.B32 Edit: JBS1002
  3   0003  0                     ) =
  4   0004  1  BEGIN
  5   0005  1
  6   0006  1  !*********************************************************************
  7   0007  1  !*                                                                  *
  8   0008  1  !*    COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                       *
  9   0009  1  !*    DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.        *
 10   0010  1  !*    ALL RIGHTS RESERVED.                                          *
 11   0011  1  !*                                                                  *
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 14   0014  1  !*    INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER *
 15   0015  1  !*    COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY *
 16   0016  1  !*    OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY *
 17   0017  1  !*    TRANSFERRED.                                                  *
 18   0018  1  !*                                                                  *
 19   0019  1  !*    THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE *
 20   0020  1  !*    AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT *
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 22   0022  1  !*                                                                  *
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 24   0024  1  !*    SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.       *
 25   0025  1  !*                                                                  *
 26   0026  1  !*                                                                  *
 27   0027  1  !*********************************************************************
 28   0028  1  !
 29   0029  1
 30   0030  1  !++
 31   0031  1  ! FACILITY: FORTRAN Support Library - User Callable
 32   0032  1  !
 33   0033  1  ! ABSTRACT:
 34   0034  1  !
 35   0035  1  !     This module implements the FORTRAN UNLOCK statement.
 36   0036  1  !
 37   0037  1  ! ENVIRONMENT: User access mode; mixture of AST level or not.
 38   0038  1  !
 39   0039  1  ! AUTHOR: Steven B. Lionel, CREATION DATE: 17-May-1979
 40   0040  1  !
 41   0041  1  ! MODIFIED BY:
 42   0042  1  !
 43   0043  1  ! 1-001 - Original.  SBL 17-May-1979
 44   0044  1  ! 1-002 - Move the BUILTIN ACTUALCOUNT into the routine, since the next
 45   0045  1  !         BLISS compiler will require it to be there.  While we are here,
 46   0046  1  !         clean up the source text a little.  Note that this edit does not
 47   0047  1  !         change the code.  JBS 22-Aug-1980
 48   0048  1  !--
 49   0049  1
 50   0050  1  !<BLF/PAGE>
```

```
  52      0051  1 !
  53      0052  1 ! SWITCHES:
  54      0053  1 !
  55      0054  1
  56      0055  1 SWITCHES ADDRESSING_MODE (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
  57      0056  1
  58      0057  1 !
  59      0058  1 ! LINKAGES:
  60      0059  1 !
  61      0060  1
  62      0061  1 REQUIRE 'RTLIN:OTSLNK';                              ! define all linkages
  63      0490  1
  64      0491  1 !
  65      0492  1 ! TABLE OF CONTENTS:
  66      0493  1 !
  67      0494  1
  68      0495  1 FORWARD ROUTINE
  69      0496  1     FOR$UNLOCK;                                      ! FORTRAN UNLOCK statement
  70      0497  1
  71      0498  1 !
  72      0499  1 ! INCLUDE FILES:
  73      0500  1 !
  74      0501  1
  75      0502  1 LIBRARY 'RTLSTARLE';                                 ! System symbols
  76      0503  1
  77      0504  1 REQUIRE 'RTLML:FORERR';                              ! FORTRAN error number definitions
  78      0572  1
  79      0573  1 REQUIRE 'RTLML:FORPAR';                              ! Inter-module constants
  80      0596  1
  81      0597  1 REQUIRE 'RTLIN:RTLPSECT';                            ! Define DECLARE_PSECTS macro
  82      0692  1
  83      0693  1 REQUIRE 'RTLML:OTSLUB';                              ! Get LUB offsets
  84      0833  1
  85      0834  1 !
  86      0835  1 ! MACROS:
  87      0836  1 !
  88      0837  1 !     NONE
  89      0838  1 !
  90      0839  1 ! EQUATED SYMBOLS:
  91      0840  1 !
  92      0841  1 !     NONE
  93      0842  1 !
  94      0843  1 ! OWN STORAGE:
  95      0844  1 !
  96      0845  1 !     NONE
  97      0846  1 !
  98      0847  1 ! EXTERNAL REFERENCES:
  99      0848  1 !
 100      0849  1
 101      0850  1 EXTERNAL ROUTINE
 102      0851  1     FOR$$IOSTAT_HND,                                 ! Error handler
 103      0852  1     FOR$$SIGNAL_STO : NOVALUE,                       ! convert error code and signal
 104      0853  1     FOR$$CB_PUSH : JSB_CB_PUSH NOVALUE,              ! Get a control block
 105      0854  1     FOR$$CB_POP : JSB_CB_POP NOVALUE;                ! Return a control block
 106      0855  1
 107      0856  1 !
 108      0857  1 ! PSECT DECLARATIONS:
```

```
: 109        0858  1 !
: 110        0859  1 DECLARE_PSECTS (FOR);                    ! Declare PSECTS for FOR$ facility
: 111        0860  1
```

```
  113    0861   1  GLOBAL ROUTINE FOR$UNLOCK (UNIT, ERR_EQL) =
  114    0862   1
  115    0863   1  !++
  116    0864   1  ! FUNCTIONAL DESCRIPTION:
  117    0865   1  !
  118    0866   1  !      Call CB_PUSH to get a control block for this UNIT.
  119    0867   1  !      Do an RMS $FREE on the unit.
  120    0868   1  !      Return I/O system to previous state.
  121    0869   1  !
  122    0870   1  ! FORMAL PARAMETERS:
  123    0871   1  !
  124    0872   1  !      UNIT.rlu.v                Unit number (call by value)
  125    0873   1  !      ERR_EQL.rl.v              If 1, return IOSTAT value
  126    0874   1  !                                If omitted or zero, signal all errors
  127    0875   1  !
  128    0876   1  ! IMPLICIT INPUTS:
  129    0877   1  !
  130    0878   1  !      LUB$V_OPENED              1 if file previously opened
  131    0879   1  !      LUB$V_NOTSEQORG           1 if file not sequential organization
  132    0880   1  !
  133    0881   1  ! IMPLICIT OUTPUTS:
  134    0882   1  !
  135    0883   1  !
  136    0884   1  ! ROUTINE VALUE:
  137    0885   1  !
  138    0886   1  !      An IOSTAT value.
  139    0887   1  !
  140    0888   1  ! SIDE EFFECTS:
  141    0889   1  !
  142    0890   1  !      All locked records on the unit are unlocked.  If the unit is
  143    0891   1  !      not open, or is not relative or indexed organization, the error
  144    0892   1  !      FOR$UNLERR - UNLOCK error
  145    0893   1  !      is signalled.
  146    0894   1  !
  147    0895   1  !--
  148    0896   1
  149    0897   2      BEGIN
  150    0898   2
  151    0899   2      GLOBAL REGISTER
  152    0900   2          CCB = K_CCB_REG : REF BLOCK [, BYTE];
  153    0901
  154    0902   2      BUILTIN
  155    0903   2          ACTUALCOUNT;
  156    0904   2
  157    0905   2      LOCAL
  158    0906   2          L_UNWIND_ACTION : VOLATILE,
  159    0907   2          L_ERR_EQL_PRES : VOLATILE,
  160    0908   2          STATUS;
  161    0909   2
  162    0910   2      ENABLE
  163    0911   2          FOR$$IOSTAT_HND (L_UNWIND_ACTION, L_ERR_EQL_PRES);
  164    0912   2
  165    0913   2  !+
  166    0914   2  ! Set up unwind action and flag if ERR= or IOSTAT was present.
  167    0915   2  !-
  168    0916   2      L_UNWIND_ACTION = FOR$K_UNWINDNOP;
  169    0917   2
```

```
  170    0918  2        IF (ACTUALCOUNT () GTR 1) THEN L_ERR_EQL_PRES = .ERR_EQL ELSE L_ERR_EQL_PRES = 0;
  171    0919  2
  172    0920  2  !+
  173    0921  2  ! Get a LUB for this unit.
  174    0922  2  ! On return, CCB points to the current control block.
  175    0923  2  !-
  176    0924  2        FOR$$CB_PUSH (.UNIT, LUB$K_LUN_MIN);
  177    0925  2  !+
  178    0926  2  ! Error action is now to pop the LUB.
  179    0927  2  !-
  180    0928  2        L_UNWIND_ACTION = FOR$K_UNWINDPOP;
  181    0929  2  !+
  182    0930  2  ! If the file is not open, or is not relative or indexed organization,
  183    0931  2  ! signal error FOR$_UNLERR.
  184    0932  2  !-
  185    0933  2
  186    0934  2        IF (( NOT .CCB [LUB$V_OPENED]) OR ( NOT .CCB [LUB$V_NOTSEQORG])) THEN FOR$$SIGNAL_STO (FOR$K_UNLERR);
  187    0935  2
  188    0936  2  !+
  189    0937  2  ! Now unlock the file.  Signal errors except for RMS$_RNL  which we
  190    0938  2  ! choose to ignore (no records were locked).
  191    0939  2  !-
  192    0940  2
  193    0941  3        IF ( NOT $FREE (RAB = .CCB))
  194    0942  3        THEN
  195    0943  3            BEGIN
  196    0944  3
  197    0945  3            WHILE (.CCB [RAB$L_STS] EQL RMS$_RSA) DO
  198    0946  4                BEGIN
  199    0947  4                $WAIT (RAB = .CCB);
  200    0948  5                $FREE (RAB = .CCB)
  201    0949  3                END;
  202    0950  3
  203    0951  4            IF (( NOT .CCB [RAB$L_STS]) AND (.CCB [RAB$L_STS] NEQU RMS$_RNL))            !
  204    0952  3            THEN
  205    0953  3                FOR$$SIGNAL_STO (FOR$K_UNLERR);
  206    0954  3
  207    0955  2            END;
  208    0956  2
  209    0957  2  !+
  210    0958  2  ! Return the I/O system to its last state.
  211    0959  2  !-
  212    0960  2        FOR$$CB_POP ();
  213    0961  2  !+
  214    0962  2  ! Return a success IOSTAT code
  215    0963  2  !-
  216    0964  2        RETURN 0;
  217    0965  1        END;                                    ! of routine FOR$UNLOCK


                                        .TITLE  FOR$UNLOCK
                                        .IDENT  \1-002\

                                        .EXTRN  FOR$$IOSTAT_HND
                                        .EXTRN  FOR$$SIGNAL_STO
                                        .EXTRN  FOR$$CB_PUSH, FOR$$CB_POP
                                        .EXTRN  SYS$FREE, SYS$WAIT
```

```
                                                      .PSECT   _FOR$CODE,NOWRT,  SHR,  PIC,2

                              081C 00000              .ENTRY   FOR$UNLOCK, Save R2,R3,R4,R11      ; 0861
                54 00000000G  00   9E 00002           MOVAB    SYS$FREE, R4
                53 00000000G  00   9E 00009           MOVAB    FOR$$SIGNAL_STO, R3
                5E            04   C2 00010           SUBL2    #4, SP
                              7E   D4 00013           CLRL     L_ERR_EQL_PRES                     ; 0897
                              AE   D4 00015           CLRL     L_UNWIND_ACTION
                6D      006D  CF   DE 00018           MOVAL    8$, (FP)-
          04    AE            01   D0 0001D           MOVL     #1, L_UNWIND_ACTION                ; 0916
          01                  6C   91 00021           CMPB     (AP), #1                           ; 0918
                              06   1B 00024           BLEQU    1$
                6E      08    AC   D0 00026           MOVL     ERR_EQL, L_ERR_EQL_PRES
                02            11 0002A                BRB      2$
                6E   D4 0002C 1$:                     CLRL     L_ERR_EQL_PRES
                50   D4 0002E 2$:                     CLRL     R0                                 ; 0924
          52    04    AC   D0 00030              MOVL     UNIT, R2
             00000000G  00   16 00034              JSB      FOR$$CB_PUSH
                04    AE   D4 0003A              CLRL     L_UNWIND_ACTION                    ; 0928
                05    FC   AB   E9 0003D              BLBC     -4(CCB), -3$                       ; 0934
     05    A1   AB   03   E0 00041              BBS      #3, -95(CCB), 4$
                38   DD 00046 3$:                     PUSHL    #56
                63   01   FB 00048                     CALLS    #1, FOR$$SIGNAL_STO
                5B   DD 0004B 4$:                     PUSHL    CCB                                ; 0941
                64   01   FB 0004D                     CALLS    #1, SYS$FREE
                2D   50   E8 00050              BLBS     R0, 7$
    000182DA   8F   08   AB   D1 00053 5$:           CMPL     8(CCB), #99034                     ; 0945
                10   12 0005B                BNEQ     6$
                5B   DD 0005D                PUSHL    CCB                                ; 0947
    00000000G  00   01   FB 0005F                CALLS    #1, SYS$WAIT
                5B   DD 00066                PUSHL    CCB                                ; 0948
                64   01   FB 00068                CALLS    #1, SYS$FREE
                E6   11 0006B                BRB      5$
                0F   08   AB   E8 0006D 6$:      BLBS     8(CCB), 7$                        ; 0951
    000181A0   8F   08   AB   D1 00071           CMPL     8(CCB), #98720
                05   13 00079                BEQL     7$
                38   DD 0007B                PUSHL    #56                                ; 0953
                63   01   FB 0007D                CALLS    #1, FOR$$SIGNAL_STO
             00000000G  00   16 00080 7$:      JSB      FOR$$CB_POP                        ; 0960
                50   D4 00086                CLRL     R0                                 ; 0964
                04 00088                RET                                               ; 0965
                0000 00089 8$:                  .WORD    Save nothing                      ; 0897
                50   08   AC   D0 0008B           MOVL     8(AP), R0
                50   04   A0   D0 0008F           MOVL     4(R0), R0
                F8   A0   9F 00093                PUSHAB   L_ERR_EQL_PRES
                FC   A0   9F 00096                PUSHAB   L_UNWIND_ACTION
                02   DD 00099                PUSHL    #2
                5E   DD 0009B                PUSHL    SP
                7E   04   AC   7D 0009D           MOVQ     4(AP), -(SP)
    00000000G  00   03   FB 000A1           CALLS    #3, FOR$$IOSTAT_HND
                04 000A8                RET

; Routine Size:  169 bytes,    Routine Base: _FOR$CODE + 0000

;  218        0966  1
```

```
; 219          0967 1 END                      ! of module FOR$UNLOCK
; 220          0968 1
; 221          0969 0 ELUDOM
```

```
;                         PSECT SUMMARY

;       Name                        Bytes                        Attributes

; _FOR$CODE                          169 NOVEC,NOWRT, RD , EXE, SHR, LCL, REL, CON, PIC,ALIGN(2)
```

```
;                         Library Statistics

;                                   -------- Symbols --------    Pages      Processing
;       File                         Total   Loaded   Percent    Mapped     Time

; _$255$DUA28:[SYSLIB]STARLET.L32;1   9776      8        0        581       00:01.0
```

```
;                         COMMAND QUALIFIERS

;    BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/NOTRACE/LIS=LIS$:FORUNLOCK/OBJ=OBJ$:FORUNLOCK MSRC$:FORUNLOCK/UPDATE=(ENH$:FORUNLOCK
;    )

; Size:          169 code + 0 data bytes
; Run Time:        00:09.0
; Elapsed Time:    00:29.9
; Lines/CPU Min:     6460
; Lexemes/CPU-Min: 35280
; Memory Used:   110 pages
; Compilation Complete
```

HELP

FORWRITDF
LIS

VMSHELP
MAP

HLD
MDL

FORWRITDU
LIS

FORVECTOR
LIS

FORWRITIL
LIS

FORWRITSF
LIS

HLD

HLDMACROS
MAR

FORVM
LIS

FORWRITSN
LIS

HLD
MAP

FORWRITSU
LIS

RSXDEFS
MAR

FORUNLOCK
LIS

FORWRITDO
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